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EXAMINER	
GILBERT, WILLIAM V	

ART UNIT	PAPER NUMBER
3635	

NOTIFICATION DATE	DELIVERY MODE
05/24/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/534,938	VAN ERP, GERARDUS MARIA	
	Examiner	Art Unit	
	WILLIAM V. GILBERT	3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is a final Office action.

- Claims 2 and 24 (the second one) have been cancelled.
- Claims 1, 3-24 and 25-38 are pending and examined.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3-22, 24-27, 29-33 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pollard (U.S. Patent

No. 3,810,337) in view of Mirmiran (U.S. Patent No. 6,123,485) and Andersen (U.S. Patent No. 5,508,072) as evidenced by Donaldson (U.S. Patent No. 6,192,651).

Claim 1: Pollard discloses a hybrid structural module comprising a tubular composite member (Fig. 1: 10, 16), a filled resin system (38) located within the member and a steel bar (28) located in the rein system, and the resin system binds the steel and tubular members together. While Pollard discloses that the tubular member can be made of numerous materials, including plastic (Col. 3, lines 38-45) it does not disclose the tubular member is fiber composite. Mirmiran discloses a fiber composite tubular member (Fig. 4b: 442) with reinforcing members and a cured substance. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the tubular member from the fiber composite because the members are functionally equivalent and would perform equally as well.

The prior art of record discloses the claimed invention including a resin system, but it does not disclose the filler as claimed. Andersen discloses a polyurethane panel with light and heavy fillers (Col. 11, lines 45-55; Col. 65: lines 10-15, respectively; the aggregates). It would have been obvious at the time the invention was made to a person having ordinary

skill in the art to have the aggregates because these compositions are well known in the art in that the light aggregate aids in the production of an overall lighter structure and the heavy aggregate is known for aiding in the strengthening of the member, which would be a desired and predictable result with the member in Pollard in view of Mirmiran. The limitation "pultruded" is considered product-by-process; therefore, determination of patentability is based on the product itself. See M.P.E.P. §2133. The patentability of the product does not depend on its method of production. If the product-by-process claim is the same as or obvious from a product of the same prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695 (Fid. Cir. 1985).

Claim 3: the member is rectangular in cross section (as shown in Fig. 1).

Claim 4: the internal void is rectangular (as shown). Regarding the limitation, "pultruded" see above.

Claim 5: while the tubular member has fibers (see Mirmiran) with longitudinal axial fibers (Col. 2, lines 55-65), it does not disclose that the majority of the fibers are orientated in a longitudinal direction. It would have been obvious at the time the invention was made to a person having ordinary skill in the

art to have this limitation because optimization of an invention will not support patentability of subject matter encompassed by the prior art unless there is evidence indicating such a limitation is critical. See M.P.E.P. §2144.05 "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454 (CCPA 1955) (Claimed process which was performed at a temperature between 40C and 80C and an acid concentration between 25% and 70% was held to be *prima facie* obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100C and an acid concentration 10%.) Regarding the limitation "pultruded, see above.

Claim 6: the resin is polyurethane (Pollard, Col. 4, lines 1-5).

Claim 7: the resin would adhere to both the tube and steel bar (as shown). This would occur due to the resinous quality of the polyurethane. Regarding the limitation "pultruded", see above.

Claim 8: a filler (the aggregate) is inert as best understood by the examiner.

Claim 9: the prior art of record does not disclose the compression strength of the filler. It would have been obvious

at the time the invention was made to a person having ordinary skill in the art to have this limitation because optimization of an invention will not support patentability of subject matter encompassed by the prior art unless there is evidence indicating such a limitation is critical. See M.P.E.P. §2144.05 "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454 (CCPA 1955) (Claimed process which was performed at a temperature between 40C and 80C and an acid concentration between 25% and 70% was held to be *prima facie* obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100C and an acid concentration 10%.)

Claim 10: the prior art of record discloses the claimed invention including a resin system, but it does not disclose a light and heavy aggregate within the system. Andersen discloses a polyurethane panel with light and heavy aggregates (Col. 11, lines 45-55; Col. 65: lines 10-15, respectively). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the aggregates because these compositions are well known in the art in that the light aggregate aids in the production of an overall lighter structure

and the heavy aggregate is known for aiding in the strengthening of the member, which would be a desired and predictable result with the member in Pollard in view of Mirmiran.

Claims 11, 12 and 15: The prior art of record discloses the claimed invention except for the specific gravity of the light aggregate, the particle size and the compression strength, though these measurable properties are inherent features of such objects. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have this limitation because differences in these physical properties not support patentability of subject matter encompassed by the prior art unless there is evidence indicating such a limitation is critical. See M.P.E.P. §2144.05 "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454 (CCPA 1955) (Claimed process which was performed at a temperature between 40C and 80C and an acid concentration between 25% and 70% was held to be *prima facie* obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100C and an acid concentration 10%.)

Claim 13: the prior art of record disclose the claimed invention except for the percent volume of the aggregate. It

would have been obvious at the time the invention was made to a person having ordinary skill in the art to have this limitation because differences in concentration will not support patentability of subject matter encompassed by the prior art unless there is evidence indicating such a limitation is critical. See M.P.E.P. §2144.05 "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454 (CCPA 1955) (Claimed process which was performed at a temperature between 40C and 80C and an acid concentration between 25% and 70% was held to be *prima facie* obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100C and an acid concentration 10%.)

Claims 14 and 16: the light aggregate is glass spheres (Andersen: Col. 11, lines 45-55), which are center spheres as best understood by the examiner.

Claims 17, 18 and 20-22: the prior art of record discloses the claimed invention except for the specific gravity of the heavy aggregate, the volume of the aggregate or the particle size. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have this limitation because differences in such properties will not

support patentability of subject matter encompassed by the prior art unless there is evidence indicating such a limitation is critical. See M.P.E.P. §2144.05 "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454 (CCPA 1955) (Claimed process which was performed at a temperature between 40C and 80C and an acid concentration between 25% and 70% was held to be *prima facie* obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100C and an acid concentration 10%.)

Claim 19: the heavy aggregate is basalt (Andersen: Col. 65, lines 10-15).

Claim 24: the steel bar is a round bar (as shown).

Claim 25: steel has carbon in it, so the bar is plain carbon steel as best understood by the examiner in light of the specification.

Claim 26: while as shown in Pollard the steel bar can be made shorter than the tubular member, it does not disclose the limitation as claimed. It would have been obvious at the time the invention was made to a person having ordinary skill in the art as a matter of design choice to have the dimensions as claimed because applicant failed to state a criticality for the

necessity of the limitation and the prior art of record is capable of being designed to meet the limitation as claimed. See MPEP 2144.04(IV)(A) citing *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Claim 27: the tubular member as shown is completely filled with resin (note that all available space in the tube is filled.)

Claim 29: the steel bar extends outwardly from the tubular member and the resin (as shown in Pollard: Fig. 1).

Claim 30: multiple steel bars are present (as shown).

Claim 31: the multiple steel bars are spaced substantially an equal distance away from each other (as shown).

Claim 32: the limitation "prestressed" is considered product-by-process; therefore, determination of patentability is based on the product itself. See M.P.E.P. §2133. The patentability of the product does not depend on its method of production. If the product-by-process claim is the same as or obvious from a product of the same prior art, the claim is

unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695 (Fid. Cir. 1985). See however, where the tightening of nuts (Pollard: 36) results in a "prestressed" member. The limitation "prior to the hybrid member being formed" is considered product-by-process for the same reasons stated above.

Claim 33: Pollard discloses forming a tubular member (10, 16), locating at least one steel bar (32) within the member, and locating a filled resin system (38) within the composite member to bind the steel bar and tubular members together. While Pollard discloses that the tubular member can be made of numerous materials, including plastic (Col. 3, lines 38-45) it does not disclose the tubular member is fiber composite. Mirmiran discloses a fiber composite tubular member (Fig. 4b: 4442) with reinforcing members and a cured substance. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to substitute these materials because the members are functionally equivalent and would perform equally as well. Also, while the prior art does not specifically disclose the member is pultruded, the examiner takes the position that it is well known in the art to have the member pultruded as pultrusion is well known in the art of fabrication of such members. See Donaldson, which provides a

filed plastic shell (22) that can be made of pultruded plastic (Col. 5, lines 5-10).

In addition, the prior art of record discloses the claimed invention including a resin system, but it does not disclose a light and heavy aggregate within the system. Andersen discloses a polyurethane panel with light and heavy aggregates (Col. 11, lines 45-55; Col. 65: lines 10-15, respectively). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the aggregates because these compositions are well known in the art in that the light aggregate aids in the production of an overall lighter structure and the heavy aggregate is known for aiding in the strengthening of the member, which would be a desired and predictable result with the member in Pollard in view of Mirmiran.

Claims 36 and 37: the steel bar would be lowered into the composite module and the resin would be poured into the module, though Pollard does not disclose the particular order of the sequence as claimed. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the order as claimed because selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. M.P.E.P. §2144.04(IV)(C) citing *In re Burhans*, 154 F.2d 690 (CCPA 1946).

Claim 38: the prior art of record discloses the claimed invention except for the expected strain of the steel bar. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have this limitation because optimizing the strain of the steel member will not support patentability of subject matter encompassed by the prior art unless there is evidence indicating such a limitation is critical. See M.P.E.P. §2144.05 "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454 (CCPA 1955) (Claimed process which was performed at a temperature between 40C and 80C and an acid concentration between 25% and 70% was held to be *prima facie* obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100C and an acid concentration 10%.)

Claims 1 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christian (U.S. Patent No. 5,253,458) in view of Mirmiran, Pollard and Andersen.

Claim 1: Christian discloses a hybrid structural module comprising a tubular member (12) and a filled system (14) located within the tubular member and elongated member in the

system and the system binds the member to the tube. Christian discloses that the bar is made of PVC, but not that it is a fiber composite member. Mirmiran discloses a filled tubular member (442) that is fibrous. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have this limitation because the two materials are functionally equivalent and would perform equally as well. Additionally, while Christian discloses the core is foam, it does not disclose the material is resinous. Pollard discloses a structural member with a resinous foam core. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to substitute these materials because the two foams are functionally equivalent and would perform equally as well. Last, while the member discloses an electrical conduit (20, which is a bar), Christian does not disclose that the member is steel. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the conduit as steel because it is well known in the art to have conduit made of steel for its strength and durability.

In addition, the prior art of record discloses the claimed invention including a resin system, but it does not disclose the aggregate as claimed. Andersen discloses a polyurethane panel with light and heavy aggregates (Col. 11, lines 45-55; Col. 65:

lines 10-15, respectively). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the aggregates because these compositions are well known in the art in that the light aggregate aids in the production of an overall lighter structure and the heavy aggregate is known for aiding in the strengthening of the member, which would be a desired and predictable result with the member in Pollard in view of Mirmiran.

Claim 28: while Christian does not disclose that the member is completely encompassed by the filled system (as shown), it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have this limitation to avoid exposed conduit that would not be aesthetically pleasing.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pollard, Mirmiran and Andersen as applied to claim 10 above, and further in view of Colby (U.S. Patent No. 5,952,053).

Claim 23: the prior art of record discloses the claimed invention except for the addition of a thixotrope to the resin. Colby discloses a polyurethane material that contains a thixotrope (Col. 4, lines 30-40). It would have been obvious at

the time the invention was made to a person having ordinary skill in the art to add this material because these materials are well known in the art for aiding in altering the viscosity of a polymeric material, and one of ordinary skill in the art would add such a material in order to achieve a desired viscosity when manufacturing the material.

Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pollard in view of Mirmiran and Andersen as applied to claim 33 above, and further in view of Welty (U.S. Patent No. 2,925,831).

Claims 34 and 35: the prior art of record discloses the claimed invention except that the bar is abraded and cleaned or etched. Welty discloses a system where a member is cleaned and roughened (which is abrasion or etching) prior to attaching one object to another (Col. 3, lines 23-35). It would have been obvious at the time the invention was made to a person having ordinary skill in the art because it is well known in the art to rough a surface of an object prior to application of resinous substances so that proper bonding will occur between the two substances.

Response to Arguments

2. The following addresses applicant's remarks/arguments dated 05 March 2010:

Claim rejection – 35 USC §103:

Regarding applicant's arguments with respect to the examiner's interpretation of "pultruded" and "prestressed" as product-by-process (arguments: page 10), the examiner maintains that these are considered product-by-process with respect to the claims, as the claims are drawn to the apparatus. The limitations "pultruded" and "prestressed" are not drawn to the final composition of the product. Applicant draws an analogy to the limitation "riveted". The examiner notes this argument, however the examiner disagrees with its application. One of ordinary skill in the art would necessarily interpret "riveted" as being attached with a rivet, just as two objects welded together would be joined by a weld. The limitations "pultruded" and "prestressed" however, do not incorporate such structural limitation. These limitations are drawn to how the apparatus is made (or how the apparatus operates), and it does not affect the final product.

Regarding applicant's arguments with respect to the resin system (arguments: page 10), the examiner maintains the prior art meets the claimed limitation in that it does provide a resin system (see above), which fills the container. As a result, it meets the "filled resin" limitation.

Regarding applicant's arguments with respect to the Pollard reference and the prestressing component (page 10), and arguments with respect to the Mirmiran reference (page 11) the examiner disagrees. Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim…." (*Superguide Corp. v. DirectTV Enterprises, Inc.*, 358 F.3d 870, 875, 69 USPQ2d 1865, 1968 (Fed. Cir. 2004).

Regarding the incorporation of the Andersen reference, the examiner maintains the incorporation of the reference is proper. Andersen was cited to provide that it is known in the art to have fillers (or aggregate). While the Abstract notes that a use for the material is in containers, it is certainly not limited to such products. It has been held that a prior art reference must either be in the field of applicant's endeavor

or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In the present case, it is relevant to the field of endeavor in that it is a filler used with an article that is made from the same material (polyurethane). Fillers such as those provided in Andersen are well known for the reasons set forth above. The same argument applies to the Colby and Welty references.

Regarding applicant's arguments with respect to the objective evidence of nonobviousness, the examiner maintains the combination of the prior art is obvious for the reasons provided in the rejection above and the rejection in proper. The reasoning for combining the prior art will not be repeated here for brevity.

For the reasons set forth above, the examiner maintains the combination of the prior art is obvious and the rejection is proper.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM V. GILBERT whose telephone number is (571)272-9055. The examiner can normally be reached on Monday - Friday, 08:00 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached on 571.272.6777. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/W. V. G./
Examiner, Art Unit 3635

/Basil Katcheves/

Primary Examiner, Art Unit 3635